

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A radio cell station apparatus in a mobile communication system, signals received in said mobile communication system including already-known reference signals, comprising:

search means for searching for a reference signal sent along a radio frequency already used in a neighboring cell station;

storage means for storing the reference signal detected by said search means;  
and

reference signal allocation means for allocating, when a connection request is received from a terminal device, a reference signal different from the reference signal stored in said storage means.

2. (Previously Presented) The radio cell station apparatus according to claim 1, wherein

before the connection request is received from said terminal device, said search means receives in advance a communication signal communicated between said neighboring cell station and a terminal device communicating with said neighboring cell station, and analyzes a reference signal in use from the received communication signal, and said storage means stores and holds said analyzed reference signal.

3. (Previously Presented) The radio cell station apparatus according to claim 2, wherein

said search means searches for the reference signal used in said neighboring cell station for each traffic slot allocated to said terminal device.

4. (Currently Amended) A radio cell station apparatus in a mobile communication system, signals transmitted/received in said mobile communication system including already-known reference signals, comprising:

storage means for storing a plurality of reference signals sent along a radio frequency different from each other; and

reference signal allocation means for randomly selecting, when a connection request is received from a terminal device, a reference signal from said storage means based on a cell station number assigned to each cell station and allocating the reference signal to said terminal device.

5. (Currently Amended) ~~The~~ A radio cell station apparatus in a mobile communication system, signals transmitted/received in said mobile communication system including already-known reference signals, comprising: according to claim 4, wherein

storage means for storing a plurality of reference signals sent along a radio frequency different from each other, wherein a cell station number is assigned to each cell station; and

~~said~~ reference signal allocation means for, when a connection request is received from a terminal device at a cell station assigned a receiving cell station number, allocates allocating an i-th reference signal corresponding to value i of a ~~reminder~~ remainder of division of said receiving cell station number by total number m of reference signals stored in said storage means, where m is a natural number and i is a natural number of at most m.

6. (Currently Amended) A reference signal allocation method performed by a radio cell station apparatus in a mobile communication system, signals received in said mobile communication system including already-known reference signals, comprising the steps of:

searching by the radio cell station apparatus for a reference signal sent along a radio frequency already used in a neighboring cell station;

storing by the radio cell station apparatus said reference signal detected; and

allocating by the radio cell station apparatus, when a connection request is received from a terminal device, a reference signal different from said reference signal stored.

7. (Original) The reference signal allocation method according to claim 6, further comprising the steps of:

before the connection request is received from said terminal device, receiving in advance a communication signal communicated between said neighboring cell station and a terminal device communicating with said neighboring cell station, and analyzing a reference signal in use from the received communication signal; and  
storing said analyzed reference signal.

8. (Original) The reference signal allocation method according to claim 7, further comprising the step of searching for the reference signal used in said neighboring cell station for each traffic slot allocated to said terminal device.

9. (Currently Amended) A reference signal allocation method performed by a radio cell station apparatus in a mobile communication system, signals transmitted/received in said mobile communication system including already-known reference signals, comprising the steps of:

storing by the radio cell station apparatus a plurality of reference signals sent along a radio frequency different from each other; and

randomly selecting by the radio cell station apparatus, when a connection request is received from a terminal device, a reference signal from said plurality of reference signals based on a cell station number assigned to each cell station and allocating the reference signal to said terminal device.

10. (Currently Amended) ~~The~~ A reference signal allocation method performed by a radio cell station apparatus in a mobile communication system, signals transmitted/received in said mobile communication system including already-known reference signals, comprising the steps of: ~~according to claim 9, further comprising the step of~~  
storing a plurality of reference signals different sent along a radio frequency from each other, wherein a cell station number is assigned to each cell station; and

allocating, when a connection request is received from a terminal device at a cell station assigned a receiving cell station number, an i-th reference signal corresponding to value i of a ~~remainder~~ remainder of division of said receiving cell station number by total number m of said reference signals stored, where m is a natural number and i is a natural number of at most m.

11. (Currently Amended) A computer readable medium containing program code which, when executed, causes a radio cell station apparatus in a mobile communication system to execute a reference signal allocation method, signals received in said mobile communication system including already-known reference signals, ~~and said method~~ comprising the steps of:

program code for searching for a reference signal sent along a radio frequency already used in a neighboring cell station;

program code for storing said reference signal detected; and

program code for allocating, when a connection request is received from a terminal device, a reference signal different from said reference signal stored.

12. (Currently Amended) ~~The reference signal allocation method~~ computer readable medium according to claim 11 executed by the radio cell station apparatus in the mobile communication system, the execution of the method caused by executing the program code contained in the computer readable medium, said method further comprising the steps of:

before the connection request is received from said terminal device, receiving in advance a communication signal communicated between said neighboring cell station and a terminal device communicating with said neighboring cell station, and analyzing a reference signal in use from the received communication signal; and

storing said analyzed reference signal.

13. (Currently Amended) ~~The reference signal allocation method~~ computer readable medium according to claim 12 executed by the radio cell station apparatus in the mobile communication system, the execution of the method caused by executing the program code contained in the computer readable medium, said method further comprising the step of searching for the reference signal used in said neighboring cell station for each traffic slot allocated to said terminal device.

14. (Currently Amended) A computer readable medium containing program code which, when executed, causes a radio cell station apparatus in a mobile communication system to execute a reference signal allocation method, signals transmitted/received in said

mobile communication system including already-known reference signals, ~~and said method comprising the steps of:~~

program code for storing a plurality of reference signals sent along a radio frequency different from each other; and

program code for randomly selecting, when a connection request is received from a terminal device, a reference signal from said plurality of reference signals based on a cell station number assigned to each cell station and allocating the reference signal to said terminal device.

15. (Currently Amended) A computer readable medium containing program code which, when executed, causes a radio cell station apparatus in a mobile communication system to execute a reference signal allocation method, signals transmitted/received in said mobile communication system including already-known reference signals, ~~and said method comprising the steps of:~~ The reference signal allocation method according to claim 14, said method further comprising the step of

program code for storing a plurality of reference signals sent along a radio frequency different from each other, wherein a cell station number is assigned to each cell station; and

program code for allocating, when a connection request is received from a terminal device at a cell station assigned a receiving cell station number, an i-th reference signal corresponding to value i of a ~~remainder~~ remainder of division of said receiving cell station number by total number m of said reference signals stored, where m is a natural number and i is a natural number of at most m.

16. (Newly Added) The radio cell station apparatus of claim 3 wherein a reference signal is used for synchronization of communication within each traffic slot.

17. (Newly Added) The reference signal allocation method of claim 8 wherein a reference signal is used for synchronization of communication within each traffic slot.

18. (Newly Added) The computer readable medium according to claim 13 where a reference signal is used for synchronization of communication within each traffic slot.